

## WHAT IS CLAIMED IS:

1. An isolated nucleic acid of any one of (a) to (d) below:
  - (a) a nucleic acid encoding a protein comprising the amino acid sequence of any one of SEQ ID NOs:2, 4, 6 and 8,
  - (b) a nucleic acid comprising a coding region in the nucleotide sequence of any one of SEQ ID NOs:1, 3, 5 or 7,
  - (c) a nucleic acid encoding a protein that comprises the amino acid sequence of any one of SEQ ID NOs:2, 4, 6 and 8, in which one or more amino acids are replaced, deleted, inserted and/or added and that is functionally equivalent to the protein comprising the amino acid sequence of any one of SEQ ID NOs:2, 4, 6 and 8, and
  - (d) a nucleic acid that hybridizes under stringent conditions with the nucleic acid comprising the nucleotide sequence of any one of SEQ ID NOs:1, 3, 5 or 7, and that encodes a protein functionally equivalent to the protein comprising the amino acid sequence of any one of SEQ ID NOs:2, 4, 6 or 8.
2. An isolated nucleic acid encoding the amino acid sequence of any one of SEQ ID NOs:2, 4, 6 and 8 or a fragment thereof.
3. A vector into which the nucleic acid of claim 1 is inserted.
4. A vector into which the nucleic acid of claim 2 is inserted.
5. A transformant harboring the nucleic acid of claim 1.
6. A transformant harboring the nucleic acid of claim 2.
7. A transformant harboring the vector of claim 3.
8. A transformant harboring the vector of claim 4.
9. A substantially purified polypeptide encoded by the nucleic acid of claim 1.
10. A substantially purified polypeptide encoded by the nucleic acid of claim 2.

1 11. A method for producing a polypeptide, the method comprising the steps of  
2 culturing the transformant of claim 3 and recovering a polypeptide expressed from the  
3 transformant or the culture supernatant thereof.

1 12. A method for producing a polypeptide, the method comprising the steps of  
2 culturing the transformant of claim 4 and recovering a polypeptide expressed from the  
3 transformant or the culture supernatant thereof.

1 13. An antibody against the polypeptide of claim 9.

1 14. An antibody against the polypeptide of claim 10.

1 15. A polynucleotide that hybridizes with the nucleic acid comprising the  
2 nucleotide sequence of any one of SEQ ID NOs:1, 3, 5 and 7 or the complementary strand  
3 thereof and that comprises at least 15 nucleotides.

1 16. A method for screening a compound binding to the polypeptide of claim 9, the  
2 method comprising the steps of:

- 3 (a) contacting a test sample with the polypeptide or a partial peptide thereof,  
4 (b) detecting a binding activity of the test sample to the polypeptide or the partial  
5 peptide thereof, and  
6 (c) selecting a compound comprising the binding activity to the polypeptide or  
7 the partial peptide thereof.

1 17. A method for screening a compound binding to the polypeptide of claim 10,  
2 the method comprising the steps of:

- 3 (a) contacting a test sample with the polypeptide or a partial peptide thereof,  
4 (b) detecting a binding activity of the test sample to the polypeptide or the partial  
5 peptide thereof, and  
6 (c) selecting a compound comprising the binding activity to the polypeptide or  
7 the partial peptide thereof.

1 18. A compound isolated by the method of claim 16.

1 19. A compound isolated by the method of claim 17.

1 20. A method for screening a compound that suppresses or promotes expression  
2 of the nucleic acid of claim 1, wherein the method comprises the steps of:

- 3 (a) contacting a test sample with cells expressing the nucleic acid,  
4 (b) detecting the expression of the nucleic acid in the cells, and  
5 (c) selecting a compound that decreases or increases the expression of the  
6 nucleic acid compared with that in the case where the test sample is not contacted with the  
7 cells.

1 21. A method for screening a compound that suppresses or promotes expression  
2 of the nucleic acid of claim 1, wherein the method comprises the steps of:

- 3 (a) providing cells into which a vector comprising a reporter gene functionally  
4 linked downstream of an expression control region of the nucleic acid of claim 1,  
5 (b) contacting a test sample with the cells,  
6 (c) detecting the activity of the reporter gene in the cells, and  
7 (d) selecting a compound that decreases or increases the activity compared with  
8 that in the case where the test sample is not contacted with the cells.

1 22. A compound isolated by the method of claim 20.

1 23. A compound isolated by the method of claim 21.